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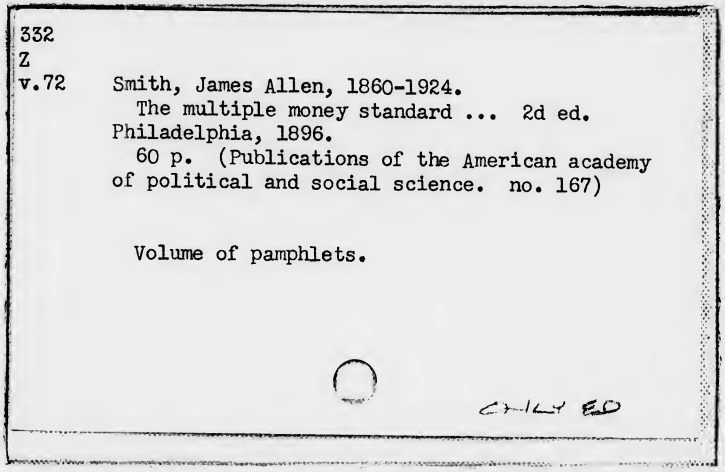

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The Multiple Money Standard.

BY
J. ALLEN SMITH,
Marietta College.

A PAPER SUBMITTED TO THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

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THE MULTIPLE MONEY STANDARD.

I. THE RELATION OF MONEY TO INDUSTRIAL SOCIETY.

The money problem has arisen as a result of the development of modern industrial society. Under the new economic organization money has a vastly more important and, in some respects, an entirely new function to perform. If we go back to the time when there was but little trade and commerce and that mainly local, when division of labor in the modern sense did not exist, we can see that the mechanism of exchange was then relatively of much less importance than it is now. Prices had but little industrial significance and production was carried on for the most part independently of money. But with the reorganization of society on the basis of division of labor, prices have come to sustain an entirely new and a vital relation to production. The industrial motive is no longer expressed in terms of

*The writer desires to acknowledge his indebtedness to Professor Henry C. Adams, of the University of Michigan, for many valuable suggestions, which have largely determined the character of this paper.

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the concrete products of labor. We now think of the results of all economic processes in terms of the monetary unit. Money has become the one universal agency of production whose function it is to secure the co-ordination of the various industrial forces of our highly complex society.

Just what is involved in the money problem does not seem to be fully appreciated even by many who have made the subject a special study. There ought at least to be substantial unanimity of opinion as to the general aims and purposes of a monetary scheme, if not as to the practical means of working it out. But such is by no means the case. This is illustrated by the controversy between the gold monometallists on the one hand and the bimetallists on the other. It would be a mistake to suppose that the essential difference between these two monetary schools is one of mere practical detail. Their controversy is more fundamental than this and its true explanation is to be found in the different conceptions from which they start and in the different results at which they aim.

The bimetallists appear to have the clearer conception of what the money function in modern society is. They are right in maintaining that stability of general prices is essential to healthy industrial activity. But as a rule they lay too much stress upon the debtor and creditor relation. They seem to think that the existence of a large volume of indebtedness constitutes the chief argument for stable general prices.

There is, however, a much more important aspect of the question, usually either ignored or but imperfectly recognized, namely, the new relation which money sustains to the industrial forces of society. Formerly, one in thinking of wealth had in mind the concrete things which he produced and he himself largely consumed. He did not then have to convert the product of his labor into money in order to satisfy his wants. With the great bulk of production money had nothing whatever to do. But with the

development of trade and commerce, the introduction of the factory system and the specialization of industry, money came to be related to economic activity in a way that was entirely new. As a rule one consumes now nothing that he produces. The entire product of his labor must pass through the money form. We labor now not for the sake of the concrete product but to secure the money to which it corresponds. The industrial motive in primitive economic society rested on a commodity basis. In the present industrial organization it rests upon a money basis. To get this fact in all its bearings is to understand the new and vital function which money performs in our modern industrial life.

The most obvious function which money performs is that of a medium of exchange. As general purchasing power it circulates throughout industrial society, compensating each part for its contribution to the social well-being. So long as society has not reached a high state of industrial development this is the only purely social function which it performs. Alterations in general prices were a matter of but little consequence so long as men thought of the results of all industrial undertakings in terms of the concrete products. But when the abstract came to be substituted for the concrete conception of wealth, general prices became a matter of great importance. As a necessary consequence of this transition from the concrete to the abstract conception of wealth, money came to be the co-ordinating arrangement of industrial society. Upon it devolved the function of controlling industrial activities and directing them to the satisfaction of industrial wants.

Economic development has been marked by an ever increasing degree of interdependence between the units of industrial society. Productive processes no longer begin and end for the most part with the individual. From a loose aggregation of approximately self-sufficient units, industrial society has become practically organic. Production

has become a truly social function—social in the sense that the individual no longer produces for himself, but for society at large.

With this change in the relation of the individual to production, which involved the substitution of the abstract for the concrete conception of wealth, the abnormal symptoms of modern industrial society appeared. The spasmodic character of modern industry, the continually recurring periods of excessive activity followed by depression are due to the fact that the monetary system is not adapted to the work which under the new and highly complex economic organization it is called upon to perform.

So long as the results of production presented themselves to the minds of producers in their concrete forms, a rise or fall in general prices was not necessarily a seriously disturbing influence. But in the new organization of industry, general prices have a much closer and more vital relation to economic life. Society has become so complex, industry so specialized, the number of commodities so large, that a change in the level of general prices is not easily or quickly seen. Each producer looking at prices from his own particular point of view and seeing but a small part of the industrial field is conscious of only such changes in prices as affect those commodities in which he is immediately interested. A rise or fall in the price of his particular commodity is obvious to him, but not so the rise or fall in general prices which may accompany it and of which it may be a part. What he sees to have taken place is an increase or decrease in the money value of his product, and this he naturally interprets as an industrial advantage or disadvantage. And this conclusion is in the main correct. The fact that the change in the price of his particular commodity is merely a part of a general price movement does not indicate that his actual return is neither increased nor diminished. Industrial development has resulted in a differentiation of society into the wage-receiving class on the one hand and the capital-owning

classes on the other. Wages, rent, interest and profits have all come to be expressed in terms of money. The money value of the first three of these factors possesses a certain degree of stability or inertia, partly by reason of the fact that a change in the purchasing power of money is not readily seen and partly, especially in the case of interest and rent, as the result of time contracts. What remains of the total social income after these elements are deducted goes to the entrepreneur as profits. Now every change in general prices alters the distribution of the product between these several classes. A rise in prices has the effect of increasing the share of the entrepreneur. As a result of this partly real, partly fictitious increase in the entrepreneur's income, business becomes abnormally active, takes on a speculative character, and usually this upward movement of general prices comes to an end with the collapse of all speculative enterprises and the general prostration of industry. On the other hand a fall in general prices by diminishing the share of the entrepreneur weakens the industrial motive and leads to an actual decrease in production.

There is a disposition on the part of many students of economics to take a purely one-sided view of general prices. They look upon them as an effect and not as a cause. They seek to account for a rise or fall in general prices in the same way that they would explain a rise or fall in the price of any particular commodity. They appeal to supply and demand as an adequate explanation of the convulsive character of modern industry. They fail to see that while this does explain the price movement of any particular commodity, it is no explanation of a general price movement. It is only by ridding our minds of the abstract notion of wealth, which has become almost an inseparable part of all our thinking on economic matters, that we can see production as it really is. Disregarding entirely the money form through which commodities pass, we can see that the supply of a commodity is the quantity of that commodity in the market, while the

demand for it is the quantity of other things offered in exchange for it. But when we look at production in the aggregate the total supply and the total demand are one and the same thing and we would expect uniform general prices as the natural result.

But the fact that general prices do vary shows that this balance between the total supply and the total demand is not maintained. If goods were exchanged directly for other goods, without the intervention of money, there could be no such economic disturbances as panics and industrial depressions. Commodities, however, are not exchanged directly for commodities. The producer first converts them into general purchasing power. When no exchange medium exists the effective demand cannot exceed the supply; but when money comes into use one may buy more than he sells or sell more than he buys.

The individual does not ordinarily bring into the market all the purchasing power which he can command, but only so much of it as he can use with profit. Purchasing power is expressed in terms of the established unit of value, and business men act on the assumption that a given quantity of it will purchase the same amount of satisfaction one time with another. It is the only thing with which custom has associated the idea of unchanging value and it is natural that men should ascribe fluctuations in the price of a commodity to changes in its value, rather than to alterations in the value of that in which by common consent the prices of all things are expressed. Industrial activity having for its immediate purpose to secure not goods but money, the success of an industry is measured not by the resulting product, but by the units of purchasing power into which it can be converted.

While the individual may buy more than he sells or sell more than he buys, such is not true of industrial society as a whole. The aggregate purchases and sales must in the latter case be equal. General prices depend on the relation

between the aggregate purchasing power brought into the market, *i. e.*, the demand and the aggregate supply. No demand for goods that is accompanied by corresponding supply has any effect on general prices, since it does not disturb the relation existing between the aggregate supply and the aggregate demand. Rising general prices mean that for some reason people are more anxious to buy than to sell and consequently are bringing into the market a relatively larger quantity of purchasing power. Under normal conditions the demand is equal to the supply and there can be neither a rise nor a fall of general prices. The demand can be made to outweigh the supply only through the introduction of a speculative element into exchange.

With the extension of the market and the increased complexity of industry we should naturally expect a closer correspondence between supply and demand. The effect of developing and extending the economic organization of society should be greater certainty and regularity in production. Why is it that this result has not been realized? The explanation must be sought in the medium of exchange—in the machinery through which the various industrial forces are brought into relation with each other.

Our exchange medium, as now organized, is simply a commodity, whose value like that of any other commodity, is regulated by supply and demand. Using the term money in its broadest sense to include every kind of general purchasing power, we may say that the supply of commodities is the demand for money, while the demand for commodities is the supply of money.

As long as men thought of wealth in its concrete form there was a direct relation between supply and demand. The aggregate demand balanced the aggregate supply and production was therefore regular. But when the concrete gave way to the abstract conception of wealth, this direct immediate relation became an indirect mediate one. Under the old economic organization, the relation between the

aggregate supply of commodities and the aggregate demand was one of equality, and may be expressed by the following equation:

Total supply of commodities = Total demand for commodities.

Under the new organization of industry the relation between supply and demand takes this form:

Total supply of commodities = Total demand for money.
Total demand for commodities = Total supply of money.
But,
Total demand for money $>, =, <$ Total supply of money.

It follows, then, that

$$\left\{\begin{matrix}\text{Total supply}\\ \text{of}\\ \text{commodities}\end{matrix}\right\} : \left\{\begin{matrix}\text{Total demand}\\ \text{for}\\ \text{commodities}\end{matrix}\right\} = \left\{\begin{matrix}\text{Total de-}\\ \text{mand for}\\ \text{money}\end{matrix}\right\} : \left\{\begin{matrix}\text{Total sup-}\\ \text{ply of}\\ \text{money}\end{matrix}\right\}$$

The above statement of the problem presents plainly to the mind the fact that fluctuations in the value of money are the cause of the paroxysms of modern industry. It is evident that every change in the value of gold must disturb the existing relations between supply and demand. If gold rises in value, or what is the same thing, the total demand for money becomes greater than the supply, the total demand for commodities is correspondingly diminished, and a fall in general prices ensues. If gold falls in value, the result is an increased demand for commodities and a rise in general prices. A gradual and prolonged fall in the value of gold means a condition of industry in which the demand for commodities is continually exceeding the supply. This is a period of speculation and abnormal activity in industry. If, on the other hand, gold is undergoing gradual appreciation the demand for commodities is continually falling below the supply, and we have glutted markets and falling prices. This means industrial depression. Any change in the value of gold involves of necessity an opposite change in the money value of commodities generally. The line which represents the movement of general prices is but the

inverted image of that which shows the fluctuations in the value of gold.

The solution of the money question clearly lies in the direction of a broadening of the monetary basis. The circulating medium must be relieved of its absolute dependence on a single commodity. The movement of the civilized world toward gold monometallism is a backward and not a forward step. It has narrowed the monetary basis and thereby increased fluctuations in general prices at the very time when the economic organization of society had become such that stable general prices were absolutely essential to healthy industrial life.

An automatic regulation of general prices and through prices of the aggregate demand is an essential feature of any monetary system that meets the requirements of modern industrial society.

II. TWO CONCEPTIONS OF A STANDARD OF VALUE.

The two general questions which present themselves at the outset are: (1) What do we mean by a standard of value? (2) What kind of a circulating medium will most nearly approximate in value the theoretically perfect standard? All would agree that the ideal standard is one which always has exactly the same value; but as to what is meant by always having the same value, there are two distinct and fundamentally different notions which tend, in their influence on the practical side of the money question, toward widely different results.

The gold monometallists stand for one conception of a standard; the bimetallists and paper money advocates for another. The former tell us that the ideal standard is one which represents the product of a constant quantity of labor;* the latter say that it is a constant quantity of

*See Adam Smith, "Wealth of Nations," Book 1, Cap. xi; Ricardo's Works, Cap. iii; D. A. Wells, "Recent Economic Changes," p. 225; John Stuart Mill, "Principles of Political Economy," Book 3, Cap. xv.

commodity.* If labor were upon an average equally productive one time with another, these two conceptions, though theoretically different, would lead to results practically the same. But when the productive power of labor is being greatly augmented this distinction becomes one of great practical importance. If the unit of value represents a constant quantity of labor it would correspond to a continually increasing quantity of commodity—that is, the purchasing power of money would increase in the same ratio as the efficiency of labor.

But does not this conception of a standard overlook the fact that the value of labor depends on its productive power? If for example, within a given period the general efficiency of labor should be doubled, the monometallists would say that general prices should fall one-half, because commodities are now being produced at one-half their former labor cost. They assume that the value of a given quantity of the average labor of one period is equivalent to that of a corresponding quantity of the average labor of any other period.

They would, however, insist on taking not quantity alone but efficiency also into account in estimating the value of present labor. Here they would recognize the fact that the value of labor depends on what it produces; but in converting the labor of one time into terms of the labor of another time, they would consider only its quantity and take no account of its efficiency.

This conception of a standard they do not seem to have taken the pains clearly to define. The idea which they everywhere keep in the foreground is that they are opposed to inflation, depreciation and dishonest money; and one would conclude from this general statement of their position that they have the same notion of a standard as that enter-

*John Stuart Mill, "Principles of Political Economy," Book 3, Cap. i; Jevons, "Money and the Mechanism of Exchange," Cap. iii; E. Benjamin Andrews, "An Honest Dollar," Publications of the American Economic Association, Vol. iv, p. 404.

tained by the bimetallic and the paper money schools—that the controversy is merely as to the means to be employed and that the end which each has in view is the same. But a careful examination of the arguments by which some of the leading gold monometallists seek to defend and justify the single gold standard, brings to light their real conception which is entirely different. Their attempt to account for a fall in general prices by the introduction of new methods of production illustrates what they mean by uniform value. According to their way of looking at it, every step in industrial progress should be accompanied by a fall in prices commensurate with the increased productive power of labor. Everything should fall in price to the extent that the efficiency of the labor employed in its production is increased, while nothing should ever rise in price unless its labor cost has actually increased. They would claim that the tendency of industrial progress is to lower the value of the product, and unless the aggregate production is increased by an amount corresponding to the increased efficiency of labor, then the total product, though largely augmented, has yet actually decreased in value.

If this conception of a standard is right, it is impossible to increase the value of the aggregate product without extending the hours of labor and for a like reason any shortening of the hours of labor means a corresponding reduction in the value of the product. It would follow, then, that though the average individual now has more wants and those wants are better supplied than they were, say two or three generations ago, yet the means by which they are satisfied would represent less value, inasmuch as they are produced by a smaller quantity of labor.

Now it seems that it is this very conception of a standard on which the arguments of some of the leading supporters of gold monometallism are based, and it is against the application of this standard to the relations of debtor and creditor that those who oppose the single gold standard

protest. They fail to see any foundation for the implied assumption of gold monometallists that the creditor, as between himself and the debtor, is the exclusive cause of, and therefore entitled to all the benefits derived from industrial progress. They say that in his capacity of creditor he not only has no right to the whole of such increase in product as between himself and his debtor, but that he is plainly entitled to no part of it. They ascribe the development of industry to general social causes, which raise the grade of labor and augment its value as they enlarge its product. As this is a social product, it is a benefit which rightly accrues to every one in so far as he is a producer, and to this product no class as such can lay any claim. Hence, they arrive at the conclusion that falling prices mean an appreciating and an unjust standard.

Those who defend the single standard would admit that a fall in prices, which cannot be accounted for by diminished cost of production, is unjust to the debtor. But even if we accept the cost of production theory of value, how do we know that the fall in prices has not been greater than the increase in the general efficiency of labor? That cost of production has been cheapened no one would deny. But when it is claimed that the universal and continuous decline in gold prices during the last twenty years is accounted for by the increased efficiency of labor, one cannot help feeling that this explanation is not adequate. How much has industrial development added to the efficiency of labor? This question cannot be answered, but it is possible that the introduction of labor-saving machinery and methods has not kept pace with the decline in general prices. But even if there were a theoretical justification for the monometallist's conception of a standard, it would have no practical value, since there is no way in which the theoretical and the actual standard could be compared. It is obvious that the average efficiency of labor is a thing which in the extremely complex organization of modern industry is

absolutely incapable of even approximate measurement. The elements which enter into it are so diverse, so constantly changing, so intangible that no means could be devised by which the expenditure of social effort could be measured. And inasmuch as industrial progress is not measurable, it cannot safely be appealed to in defence of falling prices. It becomes a convenient instrument in the hands of those who wish to justify declining prices for explaining any fall in prices, no matter how great it may be.

The gold monometallists point to the improved condition of the wage-earning classes as proof that the increase in the purchasing power of gold has been attended with good results. But is there any evidence tending to show that this is in any considerable degree the effect of falling prices? The fact is the upward movement of wages has been brought about by causes more deep-seated and permanent, and the beneficent operation of these forces the fall of prices has retarded rather than helped.

The efficiency of labor furnishes a limit beyond which the appreciation of money, be it ever so great, cannot lift wages. A rise in the value of money, if out of proportion to the increase in the efficiency of labor, would of necessity involve a fall in money wages. On the other hand, it could not account for a rise in money wages. It is evident then that the appreciation of money cannot explain all the increase in wages. An excess remains over which must be ascribed to some more potent cause which would account for the entire increase in wages as easily as for a part of it.

Two other money standards, the marginal utility * and the total utility standard,† have been suggested. They both assume that there may be a general decline in marginal utilities—that each increment of the aggregate product has less want-satisfying power than the preceding one. Total

* See the paper on "The Theory of Final Utility in Its Relation to Money," by Dr. L. S. Merriam, ANNALS, Vol. iii, p. 483, January, 1893.

† "The Total Utility Standard of Deferred Payments," by Prof. E. A. Ross, ANNALS, Vol. iv, p. 425, November, 1893.

value according to the marginal utility standard is equal to total wealth multiplied by the utility of the last increment. The total utility standard on the other hand would make total value the sum of the utilities of the various increments. The one view maintains that the value of all preceding increments falls *pari passu* with the utility of the last increment and that general prices should register the general rise or fall of marginal utilities. The other view holds that a decline in marginal utilities lowers the value of only the last increment of the aggregate product—that a general fall in marginal utilities cannot cause a fall in the total value, though it does prevent total value from increasing as rapidly as total wealth. It would demand a fall in general prices very much less than the decline in marginal utilities. With each new increment of wealth a slight fall in general prices would be required in order that the money value of the total wealth might be increased by an amount corresponding to the diminished utility of the added product. Under the marginal utility standard as under the labor standard of the monometallists there might be a fall in total value along with great increase in total wealth.

From a practical point of view both the marginal utility and the total utility standards are open to the same objection as the gold standard. Even admitting that marginal utility does fall with the increase in wealth, there is no way in which this fall can be measured. They are also to be condemned along with the gold standard on the ground that they contemplate a continuous decline in general prices.

This question of standard is one that cannot be settled by reference to any preconceived theory of value. It is not simply a question as to what is theoretically just as between the debtor and creditor. These are not the only persons interested nor are they interested only as debtors and creditors. There is a general social interest that cannot be ignored in a discussion of this matter. Money serves as a standard of deferred payments, but this is by no means its most important

function. As a medium of exchange, the results of all economic processes are expressed in terms of it. This last function of money was discussed in the preceding section and the conclusion was reached that stable general prices are essential to normal industrial activity. Any monetary system which seeks to realize either rising or falling general prices must of necessity result in disaster. The general social and industrial effects of rising or falling prices are an evil, the far-reaching results of which it would be difficult to exaggerate. Besides, a monetary system which seeks to realize either rising or falling general prices is arbitrary inasmuch as there is no means of determining whether or not the actual standard conforms to the theoretical one.

III. GOLD AN UNSTABLE COMMODITY.

To defend the gold standard successfully it must be shown not only that it is more stable in value than any other commodity but that it is more so than any practicable combination of other commodities. Without going into statistics it is safe to say that the tendency in the case of nearly all commodities is toward greater steadiness of value. The machinery of commerce is becoming so efficient that in the case of a great many things the whole demand has access to the whole supply, and by the whole demand is meant a demand not exclusively for present consumption, but for a period extending more or less into the future, while the whole supply in so far as it influences the present price is not exclusively an actual present supply but in a large measure an anticipated one. The influences which tend toward more stable prices are then (1) those which give the market a place extension and (2) those which give it a time extension. The effect of these two causes on prices is becoming more and more important with the extension of civilization, the development of cheap and quick transportation and the adoption of more scientific methods of production.

In the case of many commodities a great rise in price is out of the question, because of the fact that there are others similar in character, which can satisfy the given want almost equally well, and which will, if the first rises much in price, be substituted for it. The number of which this is true is continually increasing. We now have groups of commodities which may be used thus interchangeably, one commodity of which cannot rise very high without taking the others along with it. We thus have an effective restraint upon excessive rise in price in the fact that we can dispense with the article or supply the want to which it ministers from some other source. In other words, a demand for a given commodity is not an unconditional demand for that one commodity, but a demand for it within a certain price limit and beyond which it becomes a demand for something else.

An excessive fall in price may be prevented in the same way. If a commodity can satisfy some want of a lower grade than that to which it is usually applied, a fall in price may open up for it a new demand, which before did not exist.

In a more primitive state of society these limits to price fluctuation can hardly be said to exist; the first of these presupposes a plurality of commodities capable of satisfying a single want; the second, a single commodity capable of satisfying a plurality of wants. As the number and variety of commodities increase, the demand comes more and more to be conditional—to depend on price—and the margin of price fluctuation is correspondingly narrowed.

Gold, however, is not a commodity in which the tendency is toward greater steadiness of value.* Those checks upon fluctuation, which exist in the case of a great many things, are here conspicuously absent. Aside from its money

* For evidence to prove that the value of gold has undergone extensive changes, see Jevons, "Money and the Mechanism of Exchange," Cap. xxv; Simon Newcomb, "The Standard of Value," *North American Review*, Vol. 129.

function, there is no great industrial want that gold supplies. Its use in the arts is founded almost exclusively on the taste for display and ornamentation. The demand for it here is largely due to the fact that it is costly. While this furnishes no adequate protection against a fall in the value of gold, it is conceivable that with increasing wealth and the means of more effectually gratifying the taste for display, it might be a potent factor in raising its value.

The money demand for gold is subject to great alterations due to the alternate expansions and contractions of credit. A general extension of credit tends to lessen the money demand for gold, and there being no supplementary demand which can come in and take its place when this is withdrawn, there will result a fall in the value of gold which will continue as long as the demand for it is being lessened through the substitution of credit. There is no point at which its fall in value would be effectually brought to a stop by the opening up of a new demand, or at least such point is so far below its normal money value as to be practically non-existent.

When gold has begun to depreciate the tendency is always toward still greater depreciation and more extended credit. Each addition to the volume of credit brings about a still farther decline in the value of gold, which in turn leads to a still farther extension of credit. The possible depreciation of gold under these circumstances appears to reach a limit only at that point beyond which the credit system cannot be extended without breaking down.

Just as there may be an unhealthy expansion, so it may be followed by an abnormal and violent contraction of credit in which the market value of gold is carried as far and even much farther above what may be called its normal value than in the prior period of extended credit it sank below it. In a time like this all those devices for supplementing the work of gold as money are distrusted. What is wanted is that which the law has made a legal tender. If gold is the

so e legal tender, there is a greatly increased and a pressing demand for it. But it is a demand essentially unlike that fo: anything else. In the case of many commodities we can discontinue their use when they rise in price, or we may st bstitute others for them. The demand for gold on the other hand is a demand, the failure to supply which means financial ruin; moreover, it is a demand that we can supply w th nothing except gold. The more intense the demand for it the greater the tendency to hoard it and the less the st pply.* The automatic check upon the rise in the price of gold is the limitation of the demand through the bankr ptcy of the debtor class, which this state of things tends rapidly to bring about.

To understand the influence of credit on the value of gold it is only necessary to think of all credit transactions as sales of gold for future delivery. As long as prices are stable, and the purchasing power of money does not change, there is no motive for using credit for speculative purposes. Contracts for the future delivery of gold are not entered into with the expectation of making a profit by a fall in its value. But when prices are rising, credit transactions take on a speculative character; "short sellers" of gold (buyers of goods on credit) expect to make a profit by its depreciation, and therefore make their sales for future delivery as large as possible. The panic comes when the commercial world begins to realize that the short sellers of gold have sold more than they can deliver.

Looking at it in this light, is there any great benefit to be expected from the change which is being made throughout the civilized world to gold monometallism? The object, we are told, is a safe and stable currency; but how this result can be accomplished by narrowing the basis of money and reducing the possible volume of that which constitutes the legal tender it is difficult to see. The natural and legitimate

* "Commonplace Fallacies Concerning Money," by Emile de Laveleye, in the *Contemporary Review*, Vol. 40.

effect of such legislation would seem to be to give to speculative forces a much greater influence over the standard of value.

It is generally assumed that the periodic rise and fall of general prices—the period of abnormal credit and speculation and the period of industrial depression are to be expected under any monetary system whatever. All these commercial and industrial evils are charged up to the abuse of the credit system, while the gold standard is held blameless in the matter. The truth is, however, that while the abuse of credit is a contributory cause of the rise of general prices, the abnormal expansion of credit is itself an effect which must be ascribed to the gold standard. The very fact that gold is subject to such fluctuations in market value, no matter what the cause may be, shows that it is not a good standard.

The problem seems to be not how to continue the monetary system permanently and for all time to come on a gold basis, but how to make commodities generally the basis of the circulating medium. There is no reason why a considerable number of commodities cannot be combined in such a way as to secure a standard of practically uniform value. On the basis of these commodities the circulating medium should be issued just as the paper money under the gold standard is based on gold. If a scheme can be devised which recognizes and gives full force to the principle of redeemability, then we would have a monetary system which credit could no longer seriously disturb. Practically the standard would be represented by the great mass of commodities. This being the case, a rise of general prices would be out of the question, as a rise in the price of one commodity would of necessity be balanced by a fall in the price of others.

In this direction, it seems, lies the possibility of effecting great improvements in the present monetary system.*

* "The Standard of Value," by Simon Newcomb, in *North American Review*, Vol. 129.

IV. THE COMPOSITE GOLD AND SILVER STANDARD.

Is it possible to secure redeemability for a paper money issued on the basis of a composite standard? The nature of the problem here involved may best be presented by an illustration of this standard in its simplest form. For this purpose it is necessary to take only the familiar money commodities, gold and silver.

The idea which seems to underlie all existing monetary systems is this; that in order to use both metals as money it is necessary to establish a legal ratio between them and keep their market value in practical conformity to the ratio thus established. But no way has been devised of securing this result. No nation acting alone has been able to keep the market values of gold and silver from departing from their established coinage values, and it may be doubted whether it could be done even by the concerted action of all the leading commercial nations. Any such scheme, if its adoption could be brought about, would discourage the production of the costlier metal and possibly result in its ultimate disappearance from the monetary system.

But two money commodities do not require that there should be two kinds of money. For a composite standard it is not necessary that any ratio should be established between the component metals. Instead of declaring by law that 23.2 grains of fine gold shall be equivalent in value to 371.25 grains of fine silver, it is only necessary to make *c* grains of gold plus *d* grains of silver the unit of value. The unit in this case is neither *c* grains of gold nor is it *d* grains of silver, but the sum of these.

If the quantities of gold and silver thus taken are such that they are together worth a dollar, then the new composite unit is just equal in value to the former gold unit. The paper dollar which is issued on the basis of this new standard is an order for *c* grains of gold plus *d* grains of silver.

The proportion in which the two metals are combined in the standard would depend on the relative importance which we wish to give to gold and silver. If 23.2 grains of fine gold were equal in value to 464 grains of fine silver, we might take as our new bimetallic standard *11.6 grains of fine gold plus 232 grains of fine silver.*

Under this scheme a single bimetallic standard would take the place of the separate gold and silver standards which we now have. The law would merely define the quantities of gold and silver together forming the standard, but would in no way attempt to control their relative value. In this way it is possible to retain both gold and silver as the basis of a monetary system, since no matter how great a change in the relative value of the two metals may take place, there is no more inducement for the one metal to be withdrawn than for the other. Their relative money value would be determined by their relative commodity value and both would be available for monetary uses alike.

The paper money issued on the basis of this standard would differ from the present gold and silver certificates in that it would rest upon both gold and silver and not upon one metal alone. Every note would call for both gold and silver in the standard proportion. The coinage of gold and silver would be discontinued and bimetallic notes would form the entire circulating medium. The present subsidiary coinage might, however, be retained as more convenient than a fractional paper money and in that case no fractional bimetallic currency would be necessary.

The redeemability of the paper money thus issued could be secured as readily and effectively as in the case of that issued on the basis of a single commodity. There are three ways in which this might be done:

1. Redeemability might be secured by delivering to the party presenting the notes, gold and silver in the quantities and proportions called for in the notes. Under this plan each note is an order for a definite amount of each metal.

The gold and silver kept on hand for the purpose of redeeming notes could easily be composed of pieces of such size and character as to make the redemption of notes as easy a matter as under the present system.

2. The government might reserve the right of redeeming in either gold or silver at its own option—the amount of either metal which it is required to give in exchange for its notes being that quantity which has a market value equal to the aggregate value of the gold and silver which the notes represent.

3. Redemption might be secured as in the way last mentioned except that the option might be left to the holder of the notes.

The last two methods proposed are somewhat more complicated than the first. Under the first method no account would have to be taken of the market value of either metal; but under the second and third methods the market ratio between the two metals would have to be known. Each note here calls for a constant quantity of either metal and such additional quantity of the same metal as is equal in value to the metal for which it is substituted.

To find the amount of gold or silver to be given in exchange for the notes, it is only necessary to ascertain the quantity of gold or silver corresponding in value to the bimetallic standard and multiply this by the amount of notes expressed in dollars. To illustrate: Assuming that the bimetallic standard is 11.6 grains of fine gold + 232 grains of fine silver, and that the market ratio of gold to silver is 22 to 1, then by an easy arithmetical calculation we find that 232 grains of silver is equal in value to 10.54 grains of gold, and that 11.6 grains of gold is equal in value to 255.2 grains of silver. The bimetallic dollar then would be equal in value to 22.14 grains of fine gold or 487.2 grains of fine silver. The person presenting $10,000 in bimetallic notes would be entitled to have them redeemed at his option in either 461.25 ounces of fine gold or 10,150 ounces of fine silver.

It might be objected to the first method that not every one would desire gold and silver in the standard proportion, and that a provision requiring their acceptance in the redemption of notes in that proportion would in a measure interfere with the operation of the principle of redeemability. The same objection might be urged against the second method. The third seems not to be open to any objection of this kind. Redeemability here would seem to be about as complete as under any scheme it is possible to devise. It might be proper to make the minimum amount which would be redeemed large enough to save unnecessary trouble and expense.

In some such way as this it seems that the results which bimetallism has in view may be realized. This scheme would not be open to the main objection to bimetallism, namely, the difficulty, if not the impossibility, of maintaining a parity between the two metals. It would, however, furnish a currency securely based on both gold and silver. Neither metal would be withdrawn from this use, since its value here would always conform to its value in the market. The difference is that under bimetallism we would have two kinds of money, while here we would have only one.

The object in both cases is to secure a more stable currency. The bimetallist proposes to accomplish this by tying the two metals together in such a manner that they can only fluctuate together. But under the scheme above described this result can be secured by taking a standard, the value of which is a mean of the values of gold and silver. This mean value is the fundamental idea in the composite standard.

The convertibility of the circulating medium into either of the money commodities in the way above described would prevent the money values of gold and silver from falling below their commodity values; to prevent, on the other hand, the money values of gold and silver from rising above their commodity values, it is only necessary that either

commodity should be convertible into money at its money or standard value. Referring to the above illustration, any one having 461.25 ounces of gold, or 10,150 ounces of silver, should be allowed to deposit it with the government and receive therefor $10,000 in bimetallic notes.*

V. THE TABULAR STANDARD.

The purpose of combining two or more commodities in the standard is to secure for it greater steadiness of value. In the composite gold and silver standard described in the last section, the fluctuations in the value of one metal would in a measure neutralize those of the other. Gold and silver, however, are commodities closely related, and for this reason are more likely to fluctuate in the same than in opposite directions. They constitute by themselves a distinct commodity group, and have little or nothing in common with the great mass of commodities for which they serve as a standard.

A composite standard would be less liable to vary if the commodities entering into it belonged to different groups, and were thus more nearly independent of each other. It would also possess greater stability if it embraced a larger number of commodities. The chances that the fluctuations in one direction will be neutralized by those in the other are directly proportionate to the number of commodities constituting the standard. If a considerable number of commodities were judiciously selected and combined in the right proportion, they would form a standard that for all practical purposes might be considered invariable.

This is the principle of the tabular standard of value which has been advocated by many eminent economists as a means of preventing some of the evils now attendant upon alterations in the value of the circulating medium. The essential features of this scheme are: (1) The separation of

*See "Remedies for the Fluctuation of General Prices," by Professor Alfred Marshall, in the *Contemporary Review* for March, 1887.

the functions of money; (2) the retention of gold or silver or both, or paper money as the circulating medium and the temporary standard of value in terms of which all prices are expressed; (3) the adoption of a table of, say, fifty or one hundred commodities which shall be the permanent standard of value.

The prices of all the commodities in this table are officially determined from time to time, and their average or mean price is known as the total index number. The variations in the index number from time to time show the fluctuations in the purchasing power of money. Every contract calling for the future payment of money is subject to revision in conformity with the tabular standard when it becomes due. The amount required to be paid is found by comparing the index number at the time the obligation is created with the index number at the time it is paid. More or less money than the contract calls for must be paid according as the index number in the latter case is greater or less than in the former. If the index number has doubled, the money value of the obligation has also doubled; if the index number has diminished by one-half, the money value of the obligation has suffered a like reduction. If the index number was 100 at the time the debt was created, and 125 at the time it became due, it would indicate that $125 had, when the debt became due, only the same purchasing power that $100 had when it was incurred and, therefore, for every $100 called for in the contract the debtor should return $125. If, on the other hand, the index number had varied from 125 when the debt was created to 80, when it fell due, the debt could be extinguished by repaying $66.66+ for every $100 borrowed.

The adoption of this standard would prevent alterations in the purchasing power of money from seriously disturbing the relations between debtors and creditors, and would give to industry a steadiness and security to which we can not hope to attain under the present system. Under this

scheme there might be a general rise or fall of prices, but such alterations in general prices would not be attended with the disastrous results that now follow. Long time contracts could be made in terms of money without danger of the obligation of the one being increased or the claim of the other diminished.*

The inconvenient feature of this scheme is that the real standard is not incorporated in the monetary system. The change in the price of a commodity may be due to an alteration in the value of the commodity itself or to a change in the value of the monetary unit. If the commodity has risen in price, it may mean that it has actually increased in value or that the monetary unit has fallen in value. In like manner a fall in price may mean a fall in the value of the commodity or an increase in the purchasing power of money. It may even have risen or fallen in value without any corresponding change in price, which would be the case where the circulating medium and the commodity in question had experienced corresponding alterations in value. A rise in price might even accompany an actual fall in the value of the commodity, while a fall in price might mean an increase in value. If the commodity in question and money had both increased or decreased in value, but the increase or decrease in the value of the latter had been greater, the commodity would have fallen or risen in price while having actually increased or decreased in value. The record of the price of a commodity from day to day would not indicate the changes in value which that commodity had undergone in relation to other commodities.

What this scheme lacks is simplicity and directness. The price indicates only one relation, that of the commodity to the circulating medium—while another relation—that of the circulating medium to the tabular standard—must be taken

* Referring to a similar scheme of Joseph Lowe (1822), and that of Poulett Scrope (1833), Professor Jevons has already indicated how it might be carried into practice. See "Money and the Mechanism of Exchange," Cap. xxv.

into account before we can tell what, if any, have been the changes in value. The price must be corrected by referring it to the index number. The question then arises, is it not possible to combine these two relations to incorporate the tabular standard in the monetary system and make it the monetary unit as well as the standard of value? If such be possible, we could secure the results which the tabular standard would bring about without separating the functions of money. The price of a commodity would then indicate not only its relation to the monetary unit, but to the standard of value as well.

VI. THE MULTIPLE MONEY STANDARD.

Let us assume that the commodities selected for the multiple standard are *corn*, *wheat*, *cotton*, *oats*, *silver* and *gold*, and that these six commodities constitute 20 per cent of the total value of the annual product. The assumed price, quantity and value of each of these commodities are given in the following table:

Commodity.	Quantity.	Wholesale price.	Wholesale value.
Corn,	1,600,000,000 bushels,	$0.50 per bushel,	$800,000,000
Wheat,	500,000,000 "	1.00 " "	500,000,000
Cotton,	3,500,000,000 pounds,	.10 " pound,	350,000,000
Oats,	625,000,000 bushels,	.40 " bushel,	250,000,000
Silver,	70,000,000 ounces,	1.00 " ounce,	70,000,000
Gold,	1,450,676 "	20.68 " "	30,000,000
	Total,		$2,000,000,000

In what proportion should these commodities be combined in the standard? The purpose of this standard is to secure as the basis of the unit of value the largest practicable mass of commodities. It follows then that each commodity should enter into the standard in the ratio of its importance. To assign to corn only the same rank in the standard as to gold, would ignore the fact that the former product is worth more than twenty-six times as much as the

latter. It would be an unwarranted discrimination in favor of gold and against corn, and would allow a comparatively unimportant product to influence in an unreasonable degree the value of the standard.

Taking such quantities of these commodities in the ratio of their relative importance, as shall have an aggregate value according to the gold standard of $100,000, the new $100,000, multiple standard would be made up as follows:

Quantity of commodity in standard.	Price.	Value.
80,000 bushels corn,	$0.50 per bushel,	$40,000
25,000 " wheat,	1.00 " "	25,000
175,000 pounds cotton,	.10 " pound,	17,500
31,250 bushels oats,	.40 " bushel,	12,500
3,500 ounces silver,	1.00 " ounce,	3,500
72.5 " gold,	20.68 " "	1,500
Standard,		$100,000

For the present it is assumed that we have a circulating medium which conforms in value to and which therefore gives all prices in terms of this standard. How such a circulating medium can be secured will be explained in the following section.

The law adopting the above standard does not attempt to fix the relative values of the several commodities composing it. All that it does is to declare what quantities of these commodities shall have an aggregate money value of $100,000, just as the law now says that 23.2 grains of fine gold shall constitute a dollar. The prices of the standard commodities and consequently the value of the standard quantity of each commodity may change, but while these several items may change relatively to each other to any extent whatever, their sum total is always $100,000. It is clear that all the standard commodities cannot rise or fall in price at the same time. Suppose, for instance, that corn under the new standard falls in price to forty-two and one-half cents per bushel and that the relative values of the other standard commodities have not changed, 80,000 bushels of

corn is now worth only $34,000, but the other items in the standard have gained in value what the 80,000 bushels of corn has lost. The aggregate value of the standard quantities of wheat, cotton, oats, silver and gold has increased from $60,000 to $66,000, an aggregate gain of 10 per cent; and since their relative values have not changed, the price of each has risen 10 per cent. The total value of the standard is now distributed among the standard commodities as follows:

Quantity of commodity in standard.	Price in terms of the multiple standard.	Value in terms of the multiple standard.
80,000 bushels corn,	$0.425 per bushel,	$ 34,000
25,000 " wheat,	1.10 " "	27,500
175,000 pounds cotton,	.11 " pound,	19,250
31,250 bushels oats,	.44 " bushel,	13,750
3,500 ounces silver,	1.10 " ounce,	3,850
72.5 " gold,	22.75 " "	1,650
Total,		$100,000

A rise or fall in the price of one of the standard commodities would always involve, though in a much less degree, a fall or rise in the price of all the other standard commodities. While the fall in the price of corn in the case supposed was 15 per cent, or from fifty cents per bushel to forty-two and one-half cents per bushel as measured by the multiple standard, its fall, as compared with gold, would have been 22.8 per cent, or from fifty cents per bushel to 38.6 cents per bushel. For the same reason a rise in the price of a standard commodity would be less when measured by this standard than when compared with any single commodity standard. The multiple standard reduces the fluctuations of all the component commodities. To understand how it does this we have only to remember that the gold price of gold is constant, and that, if corn for instance were our standard commodity, the price of corn would fluctuate as little as that of gold does under the gold standard. Each commodity in the standard is compared with a unit of value of which it forms a part and

to the extent that it enters into the standard, just to that extent are its fluctuations in price diminished.

The decrease of price fluctuations from this cause is greatest when there are but few commodities in the standard. The effect varies from a complete elimination of fluctuations where the commodity forms all of the standard, to practically nothing where the commodity constitutes a very small part of the standard. With a very large number of commodities in the standard the effect on the prices of the unimportant commodities would be slight, but in the case of the great staple commodities which form a large part of the total product, price fluctuations would be confined within a much narrower range. Under this standard an increase in the quantity of commodities would mean an increase in the money value of the total product.

As explained above a fall in the price of corn to forty-two and one-half cents would necessitate a 10 per cent rise in the price of all the other standard commodities. If then the quantities of these six commodities are the same under the new prices as under the old, their aggregate money value, although their prices have changed, has suffered no change whatever. Prices cannot be altered in such a way as to affect the aggregate value of these products. The aggregate value can be increased or diminished only by increasing or diminishing the quantity of product.

A fall in the price of corn from fifty cents to forty-two and one-half cents per bushel, while the relative prices of the other standard products have not changed would indicate that there had been an increased production of corn. And, since the total value of these six commodities would, as we have seen, remain the same only on the assumption that there had been no increase in the quantity of any of them, the fall in the price of corn would indicate an increase in the value of the total product to the extent of the value of that part of the corn crop in excess of 1,600,000,000 bushels. If instead of a fall there had been a rise in the price of corn, the

relative price of the other commodities remaining unchanged, it would indicate in so far as it was due to a diminished supply, that there had been a diminution in the total value of the standard commodities to the extent of the decrease in the supply of corn. A fall in the price of a commodity cannot lower the total value of the standard products unless along with the fall in price had gone a decrease in the quantity of that commodity. On the other hand a rise in the price of a standard commodity could not raise the total value of the standard commodities unless the rise in price had been accompanied by an increase in quantity.

If all commodities entered into the standard in the ratio of their importance, an increase or decrease in their total money value would mean an increase or decrease in quantity. Practically the same result could be obtained by taking only the more important commodities. Under this standard there could be no rise or fall of general prices. Any commodity might rise or fall in price, but such rise or fall would have no effect on the total value of commodities. What is true of a single commodity would be true of commodities as a whole, there could be no alteration of general prices that would disturb the aggregate value of commodities. This would be a standard that for all practical purposes would correspond to a constant quantity of commodity.

There would be changes in the prices of commodities with the progress of invention and discovery. The introduction of improved methods of agriculture and better farming implements would temporarily lower the prices of farm products. Corn, wheat, etc., would now be produced at a less expenditure of labor than other commodities. They would, therefore, fall in price; but this would be balanced by a slight rise in the prices of all other things. When, however, a corresponding improvement in production shall have taken place in all other lines the prices of farm products will have risen to their former level. Every improvement in production will have the effect of lowering the prices of

those commodities whose labor cost is diminished and slightly raising the prices of all other commodities.

The relative importance of a commodity is liable to change in the course of time. Corn, for instance, which represented 8 per cent of the total product when the standard was adopted may, after the lapse of some years, constitute only 5 per cent of the total product. The relative importance of cotton, however, may have increased. The standard should be revised from time to time so as to conform to these permanent changes in production. A commodity which has become important should be put in the standard, while one which has become of no importance should be dropped.

The revised standard would be the exact equivalent of the old standard and there would be no alteration in prices. But prices will fluctuate less under the standard as revised since the effect of the change is to give it greater stability. The revision of the standard which would probably be necessary, or rather advisable, at long intervals would present no great difficulties and, inasmuch as it would not disturb prices, would be attended with no evil results whatever.

Any commodity could be included in the standard which is capable of being accurately defined as to quantity and quality. A great number and variety of products would meet this requirement. It would probably not be a difficult matter to secure standard commodities representing the greater part of the annual product.

The price of a commodity varies with the location of the market. It is higher in those markets farther from, and lower in those nearer to the source of supply. The standard prices then are those which prevail at some one selected market, as, for instance, Chicago. The wholesale Chicago prices of the standard commodities would regulate the value of the circulating medium throughout the entire country. One hundred thousand dollars would purchase in New York that quantity of goods corresponding in value not to the

aggregate wholesale value at New York of the standard quantities of corn, wheat, cotton, oats, silver and gold, but to their value at Chicago.

While New York and Chicago prices are not the same, they should bear such a definite relation to each other that the prices at one place being given those at the other can be readily determined. If railway rates were fixed, the wholesale prices at Chicago, barring such slight variations as are due to local fluctuations in supply and demand, would bear a fixed relation to the prices at all other points. It is assumed then that the cost of transportation is a constant quantity.

VII. THE CIRCULATING MEDIUM.

An Act of Congress establishing the multiple standard would also provide for the issue of a paper money to replace the gold and silver coins and notes now in use. This money would be a full legal tender in payment of all obligations public and private. It would be provided that after a specified future date the old circulating medium should no longer be a legal tender, but that prior to that date it might be exchanged, dollar for dollar, for notes issued on the basis of the new standard. After that date gold and silver coins and notes issued on the basis of either of these metals would be receivable only at the market value of the gold or silver which they represent.

The notes issued under this scheme would be convertible into either gold or silver at the option of the party presenting them for redemption. No notes would be redeemable in amounts of less than, say, $1000.

It would be necessary to establish in connection with the Treasury Department a bureau whose duty it would be to ascertain, record and publish daily the wholesale Chicago prices of the standard commodities. This information should be published in a form that would clearly show the variations in the purchasing power of money as evidenced

by the changes in price of the standard commodities. This daily report might be in the following form:

Wholesale prices at Chicago of the standard commodities. (Date.)

Corn (standard quality), ...	$ 0.5125	per bushel.
* * * * * *		
Silver (standard quality), ...	$ 1.00	per ounce.
Gold, " "	20.68	"

Value of standard quantities of corn, wheat, cotton, oats, silver and gold at above prices.

80,000 bushels corn, $0.5125 per bushel, ...	$ 41,000
* * * * * * *	
3,500 ounces silver, $1.00 per ounce, ...	$3,500
72.5 ounces of gold, $20.68 per ounce, ...	1,500
	$101,000

Value of one dollar of the circulating medium in terms of the standard, $0.99+.

The aggregate value of the standard items as given above is $1000 in excess of $100,000, indicating an aggregate rise in the prices of the standard commodities to that extent, and a corresponding depreciation of the circulating medium. The amount of this depreciation is found as follows:

$$\$101{,}000;\ \$100{,}000 = \$1.00 : x.\quad x = \$0.99+.$$

At the time the multiple standard is adopted it corresponds in value to 4835.58 ounces of gold or 100,000 ounces of silver. $20.68 cents per ounce for gold, or $1.00 per ounce for silver, is then the price, at which the government undertakes for the time being to buy or sell gold or silver. It cannot, in the nature of the case, be a permanent price, since the gold or silver equivalent of the multiple standard is liable to change. The government price must be raised or lowered from time to time so as to keep it in practical conformity with the value of gold and silver in the markets of the world.

The price of gold and silver being fixed by the government their value in the home markets will follow that of the

circulating medium. To the extent that there is a rise or fall of general prices, just to that extent will the local or home value of gold and silver be depressed or raised. Let us assume that the prices of the standard commodities have risen until the sum of the standard items is $102,000. It now requires 4932.29 ounces of gold or 102,000 ounces of silver to purchase what 4835.58 ounces of gold or 100,000 ounces of silver would purchase if prices were not abnormally high. This means that the local values of gold and silver have been depressed to that extent. It follows that a given depreciation of the circulating medium under the multiple standard would bring in notes to secure gold or silver as readily as a corresponding depreciation of the circulating medium under the gold standard would bring in notes to secure gold. On the other hand, a given appreciation of the currency would be as effectual in bringing in both gold and silver to secure notes in the one case as it would in bringing in gold alone in the other.

A circulating medium issued on the basis of the multiple standard and convertible into either gold or silver in the way above described would tend to conform in value to that standard in the same way and to the same extent that a currency issued on the basis of gold tends to conform to the value of gold in the world's market. There can be no greater fluctuation in the value of this circulating medium than is possible in the gold currency of one country as compared with that of other countries. The money issued on the basis of the multiple standard would conform as nearly in value to that standard as a gold currency would to the world's market value of gold. Both kinds of currency would be liable to the same local and temporary variations in value. The one, however, would tend to conform to a standard practically fixed, while the other would tend to conform to a variable standard.

At any given time and place, the change which the purchasing power of money has undergone as compared with

its value at some prior time and place depends on two factors: (1) Its local appreciation or depreciation. (2) The alteration in the value of the standard itself. The adoption of the multiple standard would give us a currency the local fluctuations of which could be no greater than those of a gold standard currency, and which besides would be practically free from the variations due to alterations in the value of the standard.

If the government valuation of gold and silver were made to follow closely the general world market value of these metals, the currency issued under this scheme would, as we have seen, be self-regulative in the same degree that a currency issued on the gold basis is self-regulative and would, besides, be free from those variations to which gold as a standard is liable.

This automatic check on the local variation of general prices may not, however, come immediately into play; and though it eventually brings prices back to their appropriate level, it may not do so until the rise or fall has been sufficient in degree and long enough continued seriously to disturb industry. What is needed is a remedy that acts as soon as prices show a tendency to rise or fall—that acts promptly and effectually and which, therefore, makes anything more than a slight temporary variation of general prices an impossibility.

To regulate the value of the circulating medium through convertibility into gold or silver, it is necessary that $100,000 should always secure or be secured by that quantity of either gold or silver corresponding in value to the standard. But gold and silver have two values; one a local value which in any given country depends on the state of the currency, the other a general market value. Should the currency be redeemable in gold or silver at the local or the general market value? If its general market value is to govern, then the person presenting $100,000 in notes for redemption may not secure gold or silver equal in value in the home market to the

standard. To illustrate: Suppose that prices have risen until the sum of the standard items is $102,000. The established price of $20.68 per ounce for gold and $1.00 per ounce for silver represents the general market value of these metals. Their local value, however, has decreased in the same ratio that general prices have risen. One hundred thousand dollars can be exchanged for only 4835.58 ounces of gold, or 100,000 ounces of silver, while in the home market the standard corresponds in value to 4932.29 ounces of gold, or 102,000 ounces of silver. The gold or silver for which the notes may be exchanged has no greater value in the local market than the notes themselves. For this reason no motive exists, even when the currency is locally depreciated, for buying gold or silver except to supply a foreign market. The man who buys gold or silver with depreciated currency and sells it again when the currency has regained its normal value finds that he is no better off than he would have been, if he had merely retained the depreciated notes. They would have appreciated as much in his hands as the gold or silver.

A circulating medium which is convertible into gold, or one convertible into silver, or one convertible into either of these metals at a fixed price, has but little elasticity. This is equally true of a currency based on the single gold or the single silver standard or of that based on the multiple standard and convertible into either gold or silver. The rise of prices must bring about a foreign demand for the precious metals before the volume of the circulating medium is automatically reduced.

A more sensitive mechanism for the regulation of general prices is obviously desirable. The only way in which this can be secured is by making the process of contraction or expansion coincide more nearly with the rise or fall of general prices. This greater elasticity would be obtained by varying the price of gold or silver inversely as general prices.

The quantity of gold or silver required to redeem a given amount of notes should be made to vary in the same ratio as the sum of the standard items. By varying the price of gold and silver in this way greater elasticity would be given to the circulating medium. But would this result in itself justify the scheme proposed? Would it not make a given amount of notes redeemable in too large a quantity of gold or silver? This might be our first impression but a little reflection, however, will convince us that it is not the case.

Under the single gold standard, notes, whether depreciated or not, always exchange for the same quantity of gold. This makes the circulating medium tend to conform to the general market value of gold. When, however, the currency is locally depreciated, one cannot, by converting it into gold, secure that command over commodities which he would have if the local value of gold corresponded to its general market value.

In the circulating medium, based upon the multiple standard, this difficulty is overcome by making the price of gold or silver vary inversely as general prices. Assuming that the local depreciation of gold and silver corresponds to that of the circulating medium, then the amount of either metal required to redeem $100,000 in notes would be that quantity of gold or silver which has a local value equal to that of the standard; or, which is the same thing, that quantity which at its general market price would correspond to the sum of the standard items.

The government is compelled to buy gold and silver slightly above their general market price when the currency is appreciated, and to sell them slightly below it when it is depreciated. Fluctuations in the purchasing power of money would thus become a general tax upon the community. The loss thus entailed on the government would be slight, however, as compared with that which the people in their individual capacity sustain, where no attempt is made to limit the fluctuations of the circulating medium.

The convertibility of gold or silver into notes and of notes into gold or silver in the way described would prevent any sensible variation in the purchasing power of money. Under this scheme those periodic collapses of credit, in so far as they are the result of a speculative condition of industry affecting the prices of commodities, would not occur, since the motive for unduly extending credit, namely, the expectation of making a profit through the depreciation of money, would not exist. Accurately speaking, the motive for undue extension of credit is not based on a belief that the value of the monetary unit will fall, but is to be ascribed rather to the expectation that the value of goods will rise. The business community habitually look upon the established monetary unit as possessing a constant quantity of value. It is partly as a consequence of this fact that interest, wages and other fixed money payments do not readily adjust themselves to a change in the level of general prices. To eliminate the conditions that permit a rise or fall of general prices is to remove the cause of undue expansion or contraction of credit.

But is it necessary that a deficiency of currency should be supplied or an excess removed only through the purchase or sale by the government of gold or silver? If there should be any occasion for a considerable expansion or contraction of the volume of the circulating medium, it would, if effected in this way, unduly increase or decrease the government holdings of gold or silver. There should exist some means of easily and quickly increasing or decreasing the amount of money in circulation to any desired extent. There are two ways in which the government might remove an excess or supply a deficiency of currency: (1) by borrowing or lending as the case may require; (2) by selling or buying.

To supply a deficiency of money through the medium of loans, it would seem necessary for the government to assume the banking function and establish a direct relation between itself and the borrowing public. An elaborate machinery

would have to be maintained and kept constantly in working order, which means that banking would become an established governmental function.

The government might make any needed addition to the volume of currency by going upon the market and purchasing good securities, continuing this operation until the demand for currency was supplied. In this way the circulating medium could readily be expanded to any extent whatever. National, state and municipal bonds and the bonds of such industrial corporations as are under government regulation and control would be suitable for this purpose.

An excess of currency might be removed by simply reversing this process. A tendency of general prices to rise might be counteracted by the sale of such securities as the government might possess. The process of reducing the volume of the circulating medium could be continued from time to time until the excess is removed. If the government does not possess securities enough to effect the necessary reduction in the volume of the currency, it might issue and sell call bonds for this purpose.*

The government would always purchase on a falling market and sell on a rising market. It follows that the purchase and sale of securities, though undertaken solely with the view of regulating the currency, would incidentally be a source of revenue. The profit which would accrue to the government in this way would probably be much greater than the loss it would sustain in consequence of the variable price of gold and silver.

Whether the contraction of the circulating medium is effected in this way or by the sale of gold and silver, it ultimately takes the form of taxation. The excess is not removed as a tax since it must be carried off by some machinery which can be called into immediate action. It is necessary, however, to include it in the future taxes levied

*See "An Honest Dollar," by E. Benjamin Andrews, Publications of the American Economic Association, Vol. iv, p. 434.

since the government must maintain its stock of gold and silver and pay its bonds. In the long run then taxation is the agency employed to regulate the volume of the currency. Contraction is accomplished by collecting in the form of taxes more than the government expends, while expansion requires only that the revenue should be less than the expenditure.

Considered by itself, the fixing of the price of gold or silver, so as to make it approximate the general market value, would appear to be a very difficult matter; but, in reality, it is very simple. Viewed in their relation to each other, the price and the reserves are related as cause and effect. So long as gold and silver are valued neither too low nor too high no difficulty will be experienced in maintaining the proper reserves. By varying the price of gold or silver from time to time so as to keep the reserves right in proportion and amount, the practical conformity of the government price to the general market value would be secured.

To begin with, the gold prices prevailing at the time of the adoption of the multiple standard would furnish the means of easily fixing the price of gold and silver in terms of the new standard. This, as we assumed, was $20.68 per ounce for gold and $1.00 per ounce for silver. When any considerable difference arises between the price thus fixed and the general market value, it will affect the reserves in one of the following ways:

1. A decrease in the stock of gold in the treasury.
2. A decrease in the stock of silver.
3. A decrease in the stock of both gold and silver.
4. An increase in the stock of gold.
5. An increase in the stock of silver.
6. An increase in the stock of both gold and silver.
7. An increase in the stock of gold and a decrease in the stock of silver.
8. A decrease in the stock of gold and an increase in the stock of silver.

The first result indicates that gold is being taken out of the country because it commands a higher price abroad.

The price in this case should be gradually raised until equilibrium between the local and the general market value is restored. In the second case the price of silver is too low and in the third the price of both gold and silver should be raised. The fourth result would be evidence of too high a local valuation of gold; the fifth, of silver, and the sixth, of both gold and silver. The seventh result would show that gold was overvalued and silver undervalued, while the eighth would indicate an undervaluation for gold and an overvaluation for silver.

It is assumed that the reserves of gold and silver are not affected by changes in general prices. Of course a rise of prices will increase the private holding of gold and silver while a fall of prices will bring these metals into the treasury. In either case the effect is temporary and does not increase or diminish the total stock of gold and silver within the country.

The circulating medium might be made redeemable in gold alone. Greater simplicity would thus be secured without any loss of efficiency. Nor is it necessary that the commodity into which the notes are convertible should form a part of the standard. Gold might be taken out of the standard and still be made to perform satisfactorily the entire work of regulating the value of the currency.

The circulating medium under this scheme would be issued directly and exclusively by the government and the volume of money would at all times correspond to the actual needs of commerce.

VIII. A National *vs.* an International Standard of Value

The notion prevails to a greater or less extent that an international standard of value is a commercial necessity. This is one of the principal arguments for the single gold standard. It is claimed that its adoption by the leading commercial nations puts that country which does not have

this standard at a disadvantage in its international trade. This is based upon the assumption that fluctuations in the rates of exchange between gold-using countries and those which have some other standard are a burden that falls for the most part upon the latter. But is this true? Do the gold standard countries in fact suffer less than others from fluctuations in foreign exchange? A fluctuating rate of exchange may or may not be an evil. It is, if due to changes in the value of our own monetary unit; but if occasioned by alterations in the value of the monetary unit of other countries, it is not.

To make stability in the rates of foreign exchange the test of a good monetary system is to lose sight of the most important function that money performs in modern society. The crucial test is not steady rates of foreign exchange, but the existence of a practically constant relation between the monetary unit and commodities generally. If the purchasing power of money is constant, we have nothing to fear from fluctuations in foreign exchange. This is clear if we remember that the rate of exchange is merely the expression of the relation between two different monetary units. A change in the value of either is followed by an alteration in the rate of exchange. Between two gold standard countries the rate of exchange is practically constant although gold may fluctuate greatly in value. Between a gold and a silver standard country the rate is fluctuating; but if the purchasing power of silver is more nearly constant than that of gold, it is the gold and not the silver standard country that suffers.

Some advantages would follow from the adoption by all nations of a uniform monetary system, if along with it could be secured in each country stability in the value of the monetary unit. Such a scheme does not seem to be attainable under the existing social and political conditions. The gold monometallists propose to realize this conception of an international standard by making gold the standard commodity in every commercial country. The benefits

derived from the general adoption of the gold standard are, however, apparent rather than real. The question at bottom is not so much the relation which exists between two monetary units as such, as that existing between commodities in the one country and commodities in the other.

Cost of transportation is an element in the price of all and a very large element in the price of many commodities. It is assumed, however, for the purposes of this argument, that gold is unlike other commodities in that transportation is nowhere an element in its price. If there were any other commodities which, like gold, could be carried without cost to all parts of the world, then gold would have, so far as these commodities are concerned, everywhere the same purchasing power. But gold does not possess the same purchasing power in all countries, and it may be that there are no two places within the same country at which it is exactly the same.

Gold has a greater purchasing power in some countries than in others. In some places it buys more of commodities generally; in others, less. Other things being equal, the purchasing power of gold is greatest or, which is the same thing, the general level of gold prices is lowest in that country whose imports are made up of those commodities which are carried at the least cost. The effect of this would be to make general prices rather higher in those countries whose exports are valuable goods and whose imports are mainly cheap heavy products. On the other hand a purely agricultural country, which exports cheap and imports costly goods ought to have a lower range of general prices than a manufacturing country. This would be true if there were no restrictions upon international trade. Duties levied upon articles of international commerce must, however, be taken into account. An increase in the duty on imports means that the level of general prices within the protected country is artificially raised. What would be true as between nations, if we had perfect

freedom of international trade, would also hold as between different parts of the same country. The application to railway rates of the principle of "charging what the traffic will bear" tends, however, to equalize the purchasing power of money in different parts of the country. Whether it varied from place to place within the same country or not, there would, if transportation rates were fixed, be a constant relation between the purchasing power of money at any two points.

The purchasing power of gold in any given country depends on two sets of conditions—one internal and the other external. As these are not the same for any two countries, and moreover are not constant for any one country, there is no definite, ascertainable relation between the purchasing power of gold in different countries. As its purchasing power depends on this relation and not on the average efficiency of labor within the given country, it is easy to see that the conception of a standard, which the gold monometallist has in mind is not realized in universal gold monometallism. Even if the purchasing power of gold did increase, taking its average the world over, in the same ratio as the efficiency of labor, there would be no necessary connection between the efficiency of labor and the purchasing power of gold in any given country. In a country whose industrial development was below the average the purchasing power of gold would be too high, while in a country which had taken the lead in industrial progress it would be too low.

No argument for international money is sound which fails to recognize that the first requisite of a good monetary system is steadiness of value. Besides, as the great bulk of our commerce is in the very nature of the case domestic, not foreign, it behooves us to look at the money question from the point of view of domestic rather than of foreign trade.

How under the multiple standard could the reserves of gold and silver be maintained in the presence of a greatly

fluctuating foreign demand? As above stated this result could be secured by raising or lowering the price of gold or silver as the case might require. From the point of view of foreign trade gold and silver are simply commodities and are exported or imported in obedience to the same laws that determine the international movement of other things. Where capital travels freely from one country to another there is no discoverable relation between the movement of the precious metals and the balance of trade.

"There is in Europe," says Professor H. C. Adams, "a system of international payments of which we know little or nothing in this country. If, for example, a merchant in Paris wishes to make a payment in Berlin, it is quite customary for him to send securities of some sort to his Berlin agent, which, being sold, permit him to place so much of their proceeds as are necessary to the order of his creditor. The securities thus used are known as 'international values.' They may be the bonds of any reliable state whose paper cannot be retained among its own citizens. Thus the bonds of Italy, Spain, Turkey and Russia are so used. Railroad securities, as also the paper of other well-established industrial corporations, swell the total of 'international values.' The point of importance, however, is to recognize the existence of such values, and to understand that by means of them any special stress upon one market may be in part transferred to other money centres. These 'international values' act as connecting pipes between great reservoirs of capital." *

We should bear in mind that a diminution of the government reserves of gold and silver through exportation may be due to the fact that capital is being withdrawn from the country. It is this very mobility of capital that introduces into modern industrial society the periodic and widespread evil known as the commercial panic. It has bound together

* "Public Debts," p. 56. See also Bagehot "Economic Studies," p. 67, and Report of U. S. Comptroller of Currency, 1888.

the commercial nations of the world in such manner that any shock to the industries of one country is immediately transmitted, perhaps with increased force, to every other country. The cause may be local but the effect is general.

In case of a collapse of credit in any country this cosmopolitan loan fund, attracted by the high rate of interest, rushes in to fill up the void. This raises the rate of interest in all countries through which this fund circulates. The sudden redistribution of this international capital affects disastrously all commercial nations. What is at first a purely local evil develops into a struggle for this general loan fund, which means ruinously high rates of interest in all countries and a general commercial panic.*

Now it is this very evil that the adoption of the multiple standard would enable us to avoid. It would secure us exemption from all commercial disturbances which are not peculiarly our own. It would supply what now does not exist, *viz.*, the means of preventing a sudden withdrawal of capital without raising the rate of interest.

Let us assume that this standard has been adopted and that the entire business of the country has become adjusted to the new unit of value—that all contracts and obligations of every kind are expressed in terms of it. Suppose now that England, for instance, is visited by a severe commercial crisis. The immediate effect is a rise in the rate of interest and a fall in the price of securities on the London market. England is now a seller of securities. She must have cash and the only way to secure it is to offer stocks and bonds at prices which will tempt foreign investors to supply her with gold. This means a contraction of the circulating medium in all other gold standard countries. The monetary system of the United States being on a different basis would not be disturbed. The American investor would not be able to

* The panic of 1893 was due primarily to disturbances in the London money market, for which the United States was not responsible, but which it was powerless to shut out. See "Panic in the U. S. in 1893," by Albert C. Stevens, *Quarterly Journal of Economics*, January, 1894.

make a profit by purchasing English securities. As soon as gold begins to be taken for export the government raises its price. American capital must take the form of gold before it can purchase English securities. But gold, here, is not as it is in the gold standard countries, a commodity which can be bought at a fixed price. The American investor finds that the price which he has to pay for gold rises in the same proportion that the price of stocks and bonds on the London market falls. From his point of view, what has really taken place is not a fall in the price of English securities, but a rise in the price of gold. There has been no change in the United States in the relation of money to commodities or in the market rate of interest. The only effect of a foreign panic has been a rise in the price of one commodity, *viz.*, gold. While the gold standard countries are able to check the loss of capital only by raising the rate of interest to a point which means widespread commercial disaster, the United States, by simply raising the price of one commodity, easily prevents any loss of capital or rise in the rate of interest. It could protect itself in the same way against any monetary disturbance in the silver standard countries. Under this system foreign panics would be effectually shut out.*

An increase in the American price of gold may mean either one of two things: (1) A rise in the rate of interest in the gold standard countries; or, (2) an increase in the general purchasing power of gold. The first of these may be due to a foreign monetary panic, the second to a resulting industrial depression. The former is of short duration, the latter may be of long continuance. But whether it be a sudden rise in the rate of interest or an increase in the general purchasing power of gold, the evil is one from which the United States would, under this scheme, be exempt.

* The advantages of a non-exportable medium of exchange were pointed out by Henry C. Carey. See Vol. ii of his Miscellaneous Works under the headings of "Monetary Independence" and "Appreciation in the Price of Gold."

IX. THE MULTIPLE STANDARD AND THE ECONOMIC PROBLEM OF DISTRIBUTION.

Let us suppose the existence of a society in which there is considerable division of labor but no money, no conception of wealth in the abstract. A producer, who, after procuring through barter such quantities of other things as he needed, still had a surplus of his commodity, would find it to his advantage to let someone have this excess, who should agree to return in exchange therefor at some future time a specified quantity of the same or some other commodity. Credit would constitute a supplementary demand. It would furnish the means through which the aggregate demand would be made to equal the aggregate supply.

The rate of exchange between present and future goods would be such as would enable those having the excess of present goods to find purchasers for them. A lower rate than this they would be unwilling to take and a higher rate they would be unable to get. There could be no undue expansion of credit under such conditions. Credit would merely provide a market for what would otherwise be an excess of product and only to the extent of this surplus could the volume of credit be expanded. It would permit inequality between supply and demand, so far as the individual is concerned, but at the same time it would preserve a balance between supply and demand in the aggregate.

It is only when money comes into general use and the abstract takes place of the concrete conception of wealth that an undue expansion of credit becomes possible. Fluctuations in the volume of credit are simply a part of the general fluctuations in industry caused by changes in the value of money.

As long as the concrete notion of wealth prevailed and credit was expressed in terms of commodities generally, the apparent rate of exchange between present and future goods was the actual rate. But when credit came to be expressed

in terms of a fluctuating monetary unit, the nominal rate of interest might be very low, while the real rate was very high or *vice versa*.

It is a fact of common observation that during the so-called good times, the period of rising prices usually preceding a panic, there is a high nominal rate of interest, while during the subsequent depression in industry, the period of falling prices, the nominal rate is low. The nominal rate, however, under the existing system is no indication of the real rate. The change in value which the monetary unit is undergoing must be taken into account. If general prices are rising, the rate of interest is really less than it appears to be, while if they are falling it is greater. If, then, we add to or subtract from the nominal rate of interest according as general prices are falling or rising, we find, especially if the change in the value of money is rapid, that the real rate is lower during the period of rising prices and higher during the period of falling prices, just the reverse of what appears to be the case.*

This is what we should naturally expect. The very fact that the volume of credit is being abnormally expanded shows that some exceptional motive exists for resorting to credit. This is the high profits on the one hand and the low interest on the other. The fall in the value of money raises profits at the expense of interest, wages and rent. Of course it does not appear to the borrower that there has been a fall in the rate of interest, for the nominal rate has probably risen. The difference between the nominal and the real interest is presented to his eye under the guise of unusual profits.

With regard to the lender it may be said that he also fails to distinguish between the nominal and the actual rate of

* See "Remedies for Fluctuations of General Prices," by Professor Alfred Marshall, *Contemporary Review*, March, 1887.

Also "Notes on Banking in Great Britain and Ireland, Sweden, Denmark and Hamburg," by Robert Harry Inglis Palgrave, Journal of the Royal Statistical Society, Vol. 36.

interest. He is unconscious of what he loses through the repayment of his loan in money of diminished purchasing power; and, as the excess of the present over the usual market or nominal rate of interest seems to him just so much clear gain, his willingness to loan increases with the rise in the nominal rate, even though the real rate at the same time falls. When there is an upward movement of general prices borrowers increase their demand for loans, and there is consequently a rise in the nominal rate of interest. But the competition of lenders usually prevents a rise in the nominal rate sufficient to compensate for the fall in the purchasing power of money, and the result is a decline in the real rate of interest.

A fall in general prices means a decrease in profits and, therefore, in the demand for loans. There is, however, no equivalent fall in the nominal rate of interest. Lenders make their calculations on the basis of the nominal, not the real rate of interest, and when the former declines, there is an increasing unwillingness to loan. It is in this way that a decline in general prices has the effect of raising the real rate of interest.

The rate of wages is affected by rising prices in the same way as that of interest. Nominal wages are raised, but real wages are lowered. The increased activity in industry, in so far as it merely absorbs labor previously unemployed, may not raise even the nominal wage. The supply of labor under the present industrial order is nearly always in excess of the demand and it is conceivable that the aggregate expenditure of labor might be considerably augmented without any increase in the price of labor. As the laborer does not distinguish between real and nominal wages, or in other words does not perceive the contemporaneous rise in general prices, an increase in the nominal wage seems to him a real gain. This at least partially accounts for the fact that wages rise less rapidly than the prices of commodities. A rapid depreciation of money always lowers real wages. A fall in prices,

on the other hand, is not accompanied by an equivalent fall in nominal wages.*

This means that there is a rise in the rate of the laborer's remuneration. This may seem to give support to the claim of the monometallists that falling prices benefit the laboring class. The advantage thus gained, however, is merely apparent, not real. A rise in the rate of the real wage does not necessarily mean an improvement in the laborer's condition. The amount of wages as well as the rate must be taken into account. The laborer is not benefited by an increase in the rate of his wages, if at the same time his total earnings are diminished; yet this is what a fall in general prices always tends to bring about. Enforced idleness, irregular employment and a great falling off in the aggregate earnings of the laboring class are the inevitable result of a rapid decline in general prices.

What is true of interest and wages is also true of rent.

Fluctuations in general prices must be looked at from the point of view of the profit receiver to understand their influence upon production. As he is the borrower of capital, the employer of labor and the manager of industry, it is through him that a rise or a fall in general prices must bring about an increase or a decrease in industrial activity.

If nominal interest, wages and rent moved up or down with general prices, the real interest, wages and rent would remain the same and each class would get its normal proportion of the total product. But the inertia of nominal interest, wages and rent prevents them from rising or falling with general prices, and consequently every change in the value of money disturbs the normal relation between interest, wages, profits and rent. A rise in prices leaves nominal

*In the United States during the period from 1860 to 1865 money wages rose in the ratio of 100 to 148.6 while general prices rose in the ratio of 100 to 232.2. From 1873 to 1879 prices in the United States declined in the ratio of 129 to 95, but money wages fell during the same period only in the ratio of 166.1 to 134.4. See Report of the Finance Committee of the Senate on Wholesale Prices, Wages and Transportation, 1893.

interest, wages and rent behind, and thus increases abnormally the share which goes to the entrepreneur. A fall in prices on the other hand fails to carry nominal interest, wages and rent down with it and, therefore, reduces real profits. A fall in the value of money not only has the effect of increasing the nominal income of those who direct industry but it augments their real income as well. To the industrial stimulus arising from a mere increase in nominal profits is added the much more effective one, a larger share of the aggregate product. On the contrary, a rise in the value of money diminishes both nominal and real profits. The relation existing between interest, wages, rent and profits is such that when prices are rising the income of the entrepreneur is increased at the expense of interest, wages and rent; but when prices are falling real interest, wages and rent are raised at the expense of profits. The effect of rising prices is to give the entrepreneur a disproportionately large share in the total income of society, while the effect of falling prices is to make his share disproportionately small.

As invention, discovery and improvement in economic organization are constantly raising the average efficiency of labor, falling prices must be considered with reference to their effect upon a society in which cost of production is being diminished. Industrial progress brings great benefits, but it also imposes heavy burdens. It raises the average efficiency of labor, but at the same time it involves the destruction of wealth and the displacement of labor and capital.

Let us suppose a fall in general prices which is coincident with and just equal to the increase in the efficiency of labor. This is what should take place if the conception underlying gold monometallism is to be realized. What now would be the effect upon industry? An answer to this question must take account of the influence of falling prices on the one hand, and of improvement in production on the other.

In order to understand the influence of industrial progress upon the production and distribution of wealth, the distinction between interest and profits must be kept clearly in mind. The interest receiver or creditor and the profit receiver or entrepreneur own all industrial capital. Its management, however, is exclusively in the hands of the latter. The industrial property of the interest receiver exists in the form of a mortgage or fixed money claim upon the capital and product of economic society. All industrial property not in the nature of a bond or other right to a fixed money payment belongs to the entrepreneur.

Now, in the case assumed, how would the benefits of industrial progress be distributed, and upon whom would the burdens fall? The reduction in the value of existing capital through improvement in production would fall entirely upon the entrepreneur. He could not recoup himself for this loss, since according to the supposition general prices have declined in the same ratio as cost of production. This burden is one from which the interest receiver is practically exempt, as is evidenced by the nature of his claim upon industrial society. The principal and interest of the obligations held by the debtor constitute a first claim upon the capital and earnings of industry. Interest on bonds or other indebtedness must be paid before dividends or profits. The industrial property of the stockholder or individual entrepreneur stands between the interest receiver and the possibility of loss. The destruction of capital occasioned by economic progress is a burden which, to the extent of the entrepeneur's interest, falls upon him alone and cannot be shifted. Improvement in production destroys the industrial property of the entrepreneur on the one hand, while the appreciation of money enables the interest receiver to appropriate it on the other.

What could be expected under such a régime but industrial depression? The entrepreneur—the director and initiator of production—in the very nature of the case is

obliged to bear the loss of capital occasioned by industrial progress, and why should he be still further burdened through falling prices for the sake of conferring a special benefit upon the interest receiver, who is himself exempt from any special burden? There seems upon analysis to be no foundation whatever for the claim of the monometallists that justice to the interest receiver requires that general prices should fall as the efficiency of labor is increased. As between the two capital owning classes, equity would demand that if either is to receive a special benefit at the expense of the other in consequence of industrial progress, it should be the one upon whom progress imposes a special burden. Justice as between the two capital owning classes themselves as well as the interests of society at large demand that the entrepreneur, who assumes the initiative in production, should not be artificially burdened for the special benefit of the class who take no active part in industry. The effect of the whole system is to discourage production, and to make a bond a more desirable investment than an entrepreneur's interest in capital.

Wants may be classified as present and future, and corresponding to these two classes of wants are two classes of commodities: (*a*) means of subsistence or goods intended for immediate consumption, and (*b*) intermediate products, or those which have in view the satisfaction of future wants. The latter are transformed into buildings, machinery and other means of production. Consumption goods are the results of production in their final form. Capital, on the other hand, is unfinished means of subsistence. All labor which takes the form of an addition to the existing stock of capital sooner or later ripens into consumption goods. An increase in capital means an increase in the future supply of means of subsistence.

It follows that there is a certain proportion between the demand for intermediate and the demand for final products which, in a given state of industrial development, is the

normal one. Along with the growth of capital and the increase in the productive capacity of society must go a corresponding increase in the power of society to consume. Under the existing economic organization, it is through the distribution of the product between interest, wages, profits and rent that the due proportion between the demand for intermediate and the demand for final products must be secured. It is chiefly from profits that capital is augmented, while wages are mainly a demand for subsistence. Regular and uninterrupted production depends on normal distribution, but the indispensable condition of the latter is stability in general prices.

As long as money fluctuates in value there can be no such thing as normal demand. Every change in general prices alters the proportion in which the aggregate income of industrial society is divided between interest, wages, profits and rent. When prices are rising a disproportionately large part of the total income passes into the hands of the entrepreneur. This suggests an explanation of the familiar fact that during such a period there is a rapid accumulation of capital and a great extension of industry. The demand for all those things necessary to the extension of industry is greatly increased without a corresponding increase in the demand for final products. This is the necessary consequence of the change in distribution which the rise in general prices brings about. A relative decrease in the share of the wage receiving class, which is spent mainly for subsistence, and a relative increase in that of the profit receiving class, which largely takes the form of a demand for buildings, machinery, etc., must soon produce a condition of industry in which there is what may be described as a general over supply of goods. An abnormal increase in the share of the entrepreneur augments the productive capacity of industrial society at the expense of its power to consume. This disproportionate distribution leads inevitably to glutted markets and falling prices. Production is

checked, and the already insufficient demand of the wage receiving class is still further reduced.

These recurring periods of abnormal activity, followed by paralysis of industry, are not difficult to understand. The slightest upward movement of general prices increases the income of the entrepreneur. But this augments the demand for credit which, in turn, leads to a still further rise in prices. The effect is to increase disproportionately the demand for intermediate products. In the usual course of things the rise in general prices will continue until the abnormal gains of the entrepreneur begin to reach the final stage of consumption goods. It cannot continue beyond the expiration of the production period since at this point the disproportionate increase of intermediate products, which accompanies the upward movement of general prices, must begin to make itself felt in a corresponding increase in the supply of final products. It is this fact which sets a limit to the possible rise in general prices. The continuance of the demand for means of production depends upon the maintenance of an efficient demand for means of subsistence. But this in turn depends upon a normal distribution of the product between interest, wages, rent and profits. The fall in general prices must set in when the end of the production period is reached. But when the rise in general prices has been considerable the due proportion between the demand for intermediate and the demand for final products cannot be immediately restored. To effect the necessary increase in the subsistence demand would require a fall in general prices sufficient to eliminate or seriously reduce profits. But this would tend to curtail production and thus actually to diminish the subsistence demand.

There is under the present industrial order no such thing as continuous and uninterrupted accumulation of capital. Even our periods of apparent prosperity are not times of normal and healthy business activity. With the upward movement of general prices industry is largely speculative. Capital may be rapidly accumulated and production may, for the

time being, run ahead of consumption. But the disproportionate increase in the demand for intermediate products has the effect of eventually bringing upon the market a supply of consumption goods in excess of the effective demand. The period of falling prices now sets in, during which production falls below consumption. The already insufficient demand for final products is still further reduced as a consequence of the curtailment of production. The industrial capacity of society is more than adequate to meet the existing demand. The inability of society to utilize all the existing capital cuts off the motive for further accumulation. There is no incentive to keep up that part of the capital of society which cannot be employed in production. There is then actual destruction or consumption of the accumulated capital of society. The total consumption is really greater than the total production. It follows that society may emerge from the period of depression with less capital and less productive capacity than when it entered upon the downward trend of prices. This consumption of capital will continue until a point is reached at which the demand calls into use all the existing capital. Here supply and demand again balance and industry is once more in what may be called its normal state.

The belief is more or less prevalent that irregularities in production have their main cause in some defect in the medium of exchange. The nature of the defect, however, does not seem to be fully understood. Fiat money, free and unlimited coinage of silver and international bimetallism are all proposed as remedies. But these are at best nothing more than mere palliatives. They would all leave the root of the evil untouched. The aim which free coinage of silver and international bimetallism have in view is to protect society against a permanent appreciation of the circulating medium. But granting that the two metals could be combined in such manner as to secure a constant cost of production for the monetary unit, it would not follow that the circulating

medium based upon it would have a constant purchasing power. The value of gold and silver, while in the long run controlled by cost of production, depends at any given moment, as does the value of all other commodities, upon supply and demand. As the total quantity of gold and silver in existence is very large, while the yearly product is relatively very small, it is obvious that an increase or a decrease in the money demand for them may keep their value for considerable periods of time either very much above or very much below cost of production. The stability of general prices cannot be secured through free coinage of silver, international bimetallism or any similar measure. It might prevent a permanent money famine, but it would not ensure that elasticity in the money supply which is absolutely essential to normal production. The industrial depression, with its enormous waste of labor and capital, would still make its regular appearance. General prices would alternately rise and fall. Cost of production under the existing system is too indirect and remote a regulator of the purchasing power of money to be of any practical value. Some more direct and immediate means of controlling general prices must be provided, if regular and uninterrupted production is to be secured. General prices are in a state of continual fluctuation, and the problem is not how to prevent these fluctuations altogether, but how to confine them within such narrow limits that no disturbance to industry will result. Under the existing monetary system the upward movement of general prices tends to continue throughout the production period. Of course many other influences come in to modify the result. A collapse of credit, for instance, may arrest the rise in prices before the end of the production period is reached or some extraordinary demand may carry off what would otherwise have constituted an excess of commodities and so extend the rise in prices beyond this point. It is this want of direct control over the purchasing power of money which gives rise to the industrial cycle.

The socialists are right in maintaining that the industrial problem is one of distribution. They are wrong, however, in asserting that the competitive principle is essentially vicious and that the only remedy for abnormal distribution is the reorganization of economic society upon a non-competitive basis. Some industries, it is true, are not subject to competition and to these the socialistic principle of state control must be applied. There is, however, a very large field of competitive industry. But the medium of exchange is the instrument of competition and it is mainly because of imperfections in the monetary system that the competitive control of industry has thus far been a failure. The co-ordination of the various industrial forces is effected through the agency of prices and it is the failure of prices to show the actual situation that leads to irregularity in production.

The crucial test of normal distribution is the maintenance of an efficient demand. It must not be supposed, however, that the normal share of interest, wages or profits is a fixed proportion—the same for all stages of industrial development. In a progressive society distribution is undergoing continual change. With the accumulation of capital an efficient demand can be maintained only through a continuous rise in the rate of wage and a continuous fall in the rate of interest. The maintenance of a due proportion between the demand for subsistence and the demand for those things which constitute an addition to the existing means of production, operates to give wages a continually increasing proportion of the total product.

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